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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
BARDO SCHMITT, ET AL.	: EXAMINER: PEZZUTO, H.
SERIAL NO: 10/509,328	:
FILED: OCTOBER 7, 2004	: GROUP ART UNIT: 1713
FOR: METHOD FOR PRODUCING HIGHLY TRANSPARENT PLASTICS FOR OPTICAL MATERIALS	:

APPEAL BRIEF UNDER 37 C.F.R. §41.37

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Further to the Final Office Action of January 25, 2007, Applicants request review of the rejections of the above-identified application by the Board of Patent Appeals and Interferences.

I. REAL PARTY IN INTEREST

The real party in interest is Roehm GmbH of Darmstadt, Germany.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF THE CLAIMS

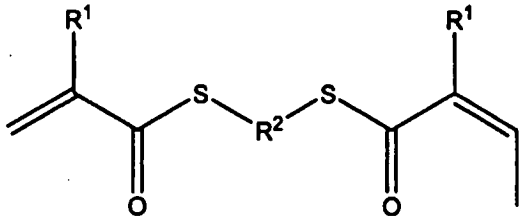
Claims 1-38 are pending in the present application. Claims 12-20, 24-26, 30-32, 34, 36 and 38 are presently withdrawn from consideration. Claims 1-11, 21-23, 27-29, 33, 35 and 37 are rejected. The rejection of Claims 1-11, 21-23, 27-29, 33, 35 and 37 is appealed.

IV. STATUS OF THE AMENDMENTS

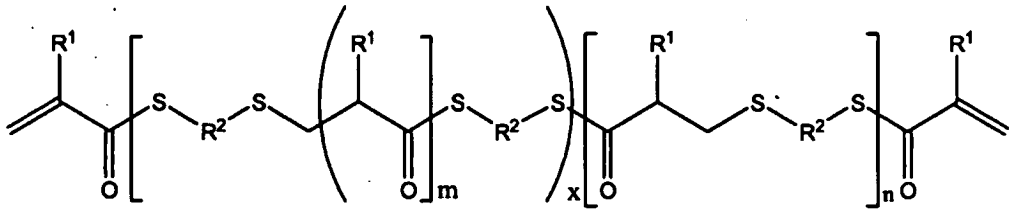
The Amendment submitted on October 23, 2006 was entered and considered. The Amendment submitted on January 3, 2006 was entered and considered. The Amendment filed on July 18, 2005 was entered and considered. The Preliminary Amendment submitted on filing the present application was entered and considered.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1 is drawn to a process for preparing a transparent plastic. The process of Claim 1 includes polymerizing a mixture that includes compounds of formula (I) and (II) shown below.



(I)

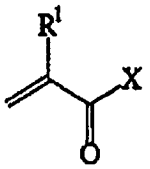


(II)

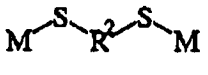
As is evident from formula (II) above, one of the components of the mixture that is polymerized in the process of Claim 1 is a material that has oligomeric and/or polymeric

portions (e.g., those portions of the compound of formula (II) which are subscripted with m. n, or x). The presence of such a compound is required by lines 8-9 of Claim 1 which state that at least 10 mol% of the mixture that undergoes polymerizing has a formula wherein m+n=2.

The compound of formula (II) must be prepared under specific conditions; namely, by reacting from 1.0 to less than 2.0 mol of at least one compound of formula (III) with a one mol of a compound of formula (IV):



(III)



(IV)

Thus the ratio of the mol ratio of compounds of formulas (III) and (IV) that may be reacted to form the compound of formula (II) is (1.0 to <2.0:1).

The plastic prepared by the claimed process is useful in applications such as ophthalmic lenses (page 1, lines 4-7). The plastic thus prepared is highly transparent and has improved mechanical properties in comparison to prior art transparent plastics (page 4, lines 22-28). Other advantages of the plastic obtained by the claimed process are disclosed on page 6, line 18 through page 7, line 15. Plastic having a particular index of refraction and/or Abbe number are particularly preferred (page 11, line 29 – page 12, line 9).

The ratio of the number of moles of the compound of formula (III) reacted with the compound of formula (IV) to form the compound of formula (II) has a material affect upon the properties of the plastic that is obtained by reacting the compounds of formula (I) and (II) (see page 16, line 19 – page 17, line 11). This aspect of the invention is demonstrated in the Inventive and Examples of the specification on pages 27-31.

An inventive example is able to provide an index of refraction of 1.6169 (see page 31, line 20), whereas an example from the closest prior art provides an index of refraction of only 1.6079 (see page 31, line 29).

The remaining pending claims presently under consideration (i.e., Claims 2-11, 21-23, 27-29, 33, 35 and 37) all ultimately depend from Claim 1. Dependent Claims 21-23 further limit the mol ratio of the compounds of formula (III) and (IV). Dependent Claims 27-29 require that the plastic prepared by the claimed process have particular refractive index and/or Abbe number characteristics. Claim 37 requires that the process is carried out by polymerizing a mixture that contains only compounds of formula (I) and (II) as the only polymerizable compounds.

VI. GROUNDS OF REJECTION

Claims 1-11, 21-23, 27-29, 33, 35 and 37 are rejected as obvious under the meaning 35 U.S.C. §1103(a) over a patent to Bader (US 5,384,379) in combination with FR 2771411 (FR '411). The Office appears to have taken the position that Bader discloses a process that includes reacting compounds meeting the requirements of formulas (III) and (IV) of Claim 1 in a ratio of (>2.0:1), e.g., at least two mols of (III) are reacted with one mol of (IV), to form a compound that is the same as the compound of formula (II) recited in present Claim 1. The Office is of the opinion that the presently claimed mol ratio of compounds of formula (III):(IV) having a maximum number of mols of compound (III) 2.0 mol abuts the >2.0 requirement disclosed in Bader that "the range of the prior art establishes *prima facie* obviousness because one of ordinary skill in the art would have expected the closely similar ranges of (III) reacting with (IV) would result in compound (II) having the same or essentially the same properties" (see the sentence bridging pages 3 and 4 of the January 25, 2007 Office Action).

The Office is further of the opinion that the comparative showings of the original specification are not "clear and convincing" with respect to demonstrating some superior or unexpectedly different properties and/or features in comparison to the closest prior art (see page 4, lines 4-17 of the January 25, 2007 Office Action).

Claims 1-11, 21-23, 27-29, 33 and 35 are further rejected as obvious under the meaning 35 U.S.C. §103(a) over a patent to Smith (US 6,342,571). The Office asserts that Smith's disclosure of the formulation of thio(meth)acrylate monomers including compounds of formula (a)(i) and (a)(ii) are within the scope of the monomer materials of formula (I) and (II) of present Claim 1 (see page 5, paragraph no. 6 of the January 25, 2007 Office Action). The Office is further of the opinion that Smith discloses a process of making the compound of formula (a)(ii) by reacting compounds of formula (A) and (B) (i.e., corresponding to the compounds of formula (III) and (IV) of the present claims) in a mol ratio of 1.3:1 to 2.5:1 which is assertedly within the scope of the (1.0 to <2.0:1) mol ratio of present Claim 1 (see page 6 of the January 25, 2007 Office Action).

The Office is of the opinion that the product derived from the Smith process must inherently have the characteristics such as Abbe number and refractive index recited in dependent Claims 27-29.

VII. ARGUMENT

(A). The claimed invention requires the use of a compound of formula (II) formed by reacting a compound of formula (III) with a compound of formula (IV) in a mol ratio i.e., (1.0 to <2.0:1) that is outside the mol ratio i.e., (>2.0:1) disclosed in Bader. Thus, the claimed invention is not *prima facie* obvious over Bader.

At best, Bader discloses the formation of a compound which corresponds to the compound of formula (II) of present Claim 1 which is made reacting compounds that correspond with compounds of formulas (III) and (IV) of present Claim 1 in a mole ratio that

must be at least 2.0 (see column 2, lines 43-62 of Bader). It is impossible for the presently claimed range (1.0 to <2.0) to fall within the prior art ratio of (≥2.0:1).

Any assertion by the Office that the mole ratio of compounds of formula (III):(IV) recited in present Claim 1 falls within the prior art mole ratio of ≥2.0:1 is not correct.

The Office appears to whitewash this difference by acknowledging that the compound of formula (II) of Bader is in fact produced by using a mole ratio of compounds of formula (III)/(IV) that must be at least 2.0 (see page 3 of the January 25 Office Action). The Office then asserted that because the prior art mole ratio and the mole ratio recited in the present claims "abut" one another, one of ordinary skill in the art would believe that the products derived from the products of the two different reactions would result in a compound of formula (II) that has "the same or essentially the same properties". The Office did not support this conclusion with any evidence.

Applicants submit that polymer materials made by polymerizing different ratios and/or amounts of monomers must necessarily be different. For the Office to assert that the prior art compound of formula (II) is the same or essentially the same as the compound of formula (II) recited in present Claim 1 ignores this fundamental truth of polymer science.

Claims 21-23

Arguendo, even if the Office is correct and a compound, (i.e., the compound of formula (II) of present Claim 1) formed by reacting compounds of formula (III) and (IV) in an mol ratio that is only slightly less than the 2.0 minimum mol ratio of Bader could form a product having the same or essentially the same properties, the Office provided no reason why compounds formed by reacting compounds of formula (III) and (IV) in maximum mole ratios of 1.8, 1.6 or 1.5, e.g., Claims 21-23, would be the same or essentially the same as compounds formed by reacting compounds of formula (III) and (IV) in a minimum mole ratio

of 2.0. Thus, Claims 21-23 which require that the mole ratio of the compounds of formula (III) and (IV) are at least 1.8, 1.6 and 1.5, respectively, are further patentable over Bader.

(B). The Office failed to give due consideration to Applicants' factual evidence in support of patentability. Applicants have shown that making a transparent plastic by polymerizing compounds of formula (I) and (II) when the compound of formula (II) is made by reacting compounds of formula (III) and (IV) in a mol ratio of (1.0 to <2.0) has a material affect upon the transparent plastic made by the claimed process.

Applicants compared the transparent plastic made by the process of Bader (i.e., as disclosed in DE 4234251) with a transparent plastic made by the claimed invention in the Examples of the present specification. Applicants provided a comparison of the claimed process with closest prior art. This comparison is explained below.

Firstly, Table 3 in the original specification (see page 30 and Appendix IX of the present paper) shows that the compound of formula (II) is materially different when it is prepared by reacting different mole ratios of compounds of formula (III) and (IV). The last three columns of Table 3 (shaded in Appendix IX) compare the amount of mono-adducts, di-adducts and tri-adducts produced when compounds of formula (III) and (IV) are reacted in mole ratios of (1.0 to <2.0):1 (i.e., as presently claimed see Examples B1-B4), and mole ratios of >2.0 (i.e., as required by Bader see Examples VB1-VB3). The difference in the relative amounts of mono-, di-, and tri-adducts formed under different mole ratio conditions is readily evident in the last three columns of Table 3.

Thus, the process of present Claim 1 requires reacting a compound of formula (I) with a compound of formula (II) which must be different from the compound of formula (II) of Bader as is evidenced by the different mol percent of mono-, di-, and tri-adducts as shown in Table 3 of the original specification.

The data of Table 3 prove that using different mol ratios of the compounds of formulas (III) and (IV) provides compounds of formula (II) that are chemically different at least in degree of oligomerization/polymerization. The Office did not appear to take this evidence into consideration as evidence that the compound of formula (II) of the claimed invention is different from any corresponding compound in Bader.

Applicants further showed that this difference is critical to forming a transparent plastic having different properties in comparison with the transparent plastic made by the prior art process. The compound of formula (II) made in inventive example B4 (i.e., with a)(III):(IV) mol ratio of 1.45:1) is reacted with a compound of formula (I) on page 31, lines 11-25 to provide a transparent plastic having a refractive index (n_D^{20}) of 1.61 and an Abbe number of 38.9. In comparison, Example V-1 disclosed in Bader (i.e., DE 4234251) is polymerized to form a transparent plastic having a refractive index of 1.6079 and an Abbe number of 35 (see column 5, lines 17-19 of Bader).

The evidence of the original specification therefore proves that a transparent plastic is significantly superior and different from the plastic formed in the closest prior art (i.e., Bader) when the transparent plastic is formed using a (1.0 to <2.0):1 mol ratio of compounds of formula (II) and (IV) to form the compound of formula (II).

(C). The Office's objections to the data provided in support of patentability are technically unreasonable. The data of the original specification should be accepted as proof that the claimed invention provides a transparent plastic that is unobviously different from the transparent plastic formed by the prior art process.

In response to the evidence argued above, the Office was of the opinion that Applicants' inventive and comparative examples did not provide "clear and convincing evidence" that the product-by-process limitation of present Claim 1 does not necessarily or

inherently possess the same properties as that of the prior art. The data of Table 1 make it clear that using different mol ratios of compounds of formula (III) and (IV) provides compounds of formula (II) that are of different. It is not understandable how the Office can come to a different conclusion in view of the data presented in the original specification and discussed at length during the prosecution of the present application.

The Office appears to further assert that even if Applicants' data demonstrate superior results, such data would not be probative of patentability because the data are not presented in a side-by-side manner with the closest prior art. The Office cites to differences in reaction solvent, amount of NaOH used, reaction temperature, and relative mol% of EDTMA as evidence that a side-by-side comparison was not made (see page 4 of the January 25, 2007 Office Action).

Applicants submit that such an assertion by the Office is completely unsupported and technically unreasonable. The Office provided no reason why any of the aforementioned reaction conditions would have any affect whatsoever on the degree of polymerization and/or the relative mol% of mono-, di- and tri-adducts formed by reacting the compounds of formula (III) and (IV) in different mol ratios. In fact, there is no conceivable reason why such reaction conditions would have any affect on the results of the polymerization as they are presented in Table 1.

The Office's argument in this regard is contradictory to the basis for the rejection. On the one hand the Office asserts that using different mol ratios of compounds of formula (III) and (IV) would provide a composition having the same or essentially the same properties. On the other hand, the Office asserts that making minor changes in reaction conditions such as reaction temperature, amount of NaOH, and/or amount of EDTMA would affect the results of the comparison to such a degree as to make a comparison meaningless.

None of the compounds that the Office asserts may affect the comparison (e.g., solvent, NaOH, EDTMA etc.) is present in the compound of formula (II) or the transparent plastic made by polymerizing the compound of formula (II). Because these materials are not incorporated into the compound of formula (II), e.g., they are not a portion of the compound (II) oligomer mixture and their affect on the formation is negligible with respect to the relative differences of the examples.

The Office's objection to the data is therefore technically unreasonable and the data should be given full consideration in support of patentability.

(D). Smith's disclosure of forming a plastic by polymerizing a mixture of monomers is different from the claimed method of forming a transparent plastic from compounds of formula (I) and (II) where at least the compound of formula (II) is an oligomer/polymer mixture. The Office ignored this basic difference between the prior art process and the claimed process. The rejection is therefore not supportable and should be withdrawn.

Smith forms a polymer by polymerizing thiol monomers (see column 2, line 47 through column 3, line 44 of Smith which discloses that a mixture of monomers is polymerized). As already discussed in the arguments above, the process of forming compound (II) of present Claim 1, forms a mixture of materials that may include oligomeric species such as di-adducts and tri-adducts. These compounds are different from the thiol monomers of Smith.

The Office asserts that reacting the thiol monomer compositions of Smith is the same as reacting the compounds of (I) and (II) of present Claim 1. Applicants submit that this is not correct. In fact, Applicants have shown that preparing the compound of formula (II) recited in present Claim 1 by reacting compounds of formula (III) and (IV) provides a compound of formula (II) that is a mixture of mono-, di-and tri-adducts (see the experimental

results shown in Table 3, reproduced in Appendix IX). A mixture of the Smith monomers is necessarily different from the compound of formula (II). Thus, the polymerizing of present Claim 1 must necessarily involve the polymerization of compounds that are not disclosed in Smith.

The Office provided no reason why the prior art compounds of formula (a)(i) and (a)(ii) would be the same or have the same properties as the compound (e.g., oligomeric mixture) of formula (II) of present Claim 1.

Applicants further showed that forming a transparent plastic according to the claimed method forms a plastic that is different from a plastic made by a process that used a different compound of formula (II). Thus, the above explained difference between the presently claimed invention and the prior art is a material difference.

The Office's rejection is contrary to the evidence and should be overturned by the Board.

Respectfully submitted,

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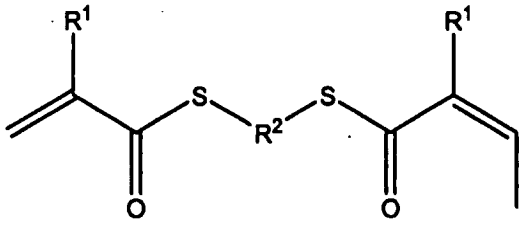
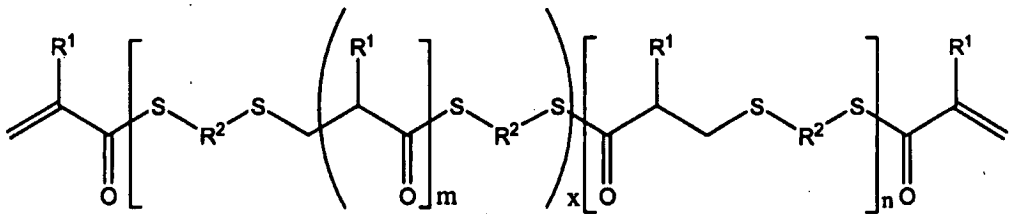
VIII. CLAIMS APPENDIX

Claim 1: A process for preparing a transparent plastic, comprising:

polymerizing a mixture comprising the compounds of the formula I and formula II



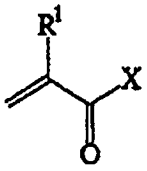
(I)



(II)

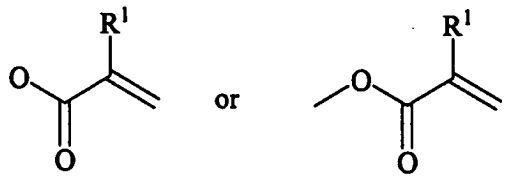
where R^1 is independently at each instance hydrogen or a methyl radical, R^2 is independently at each instance a linear or branched, aliphatic or cycloaliphatic radical or a substituted or unsubstituted aromatic or heteroaromatic radical, and m and n are each independently an integer of not less than 0, subject to the proviso that $m + n > 0$, and

wherein the mixture contains more than 10 mol%, based on the total amount of the compound as per formula (I) and (II), of compounds of the formula (II) where $m + n = 2$, prepared by reacting, in the presence of a solvent L, 1.0 to less than 2.0 mol of at least one compound of the formula (III)

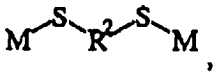


(III)

where X is chlorine or a radical of formula



with one mole of at least one polythiol of the formula (IV)

 (IV)

where M is independently at each instance hydrogen or a metal cation;

wherein the solvent L is at least one of acetone, acetonitrile, acetophenone, benzyl acetate, n-butyl acetate, quinoline, chlorobenzene, o-chlorotoluene, m-chlorotoluene, p-chlorotoluene, o-dichlorobenzene, m-dichlorobenzene, diethyl ether, diisopropyl ether, dimethyl phthalate, dipropyl ether, ethyl acetate, ethyl benzoate, ethyl butyrate, ethyl formate, ethyl salicylate, isoquinoline, 2-methoxyethyl acetate, methyl acetate, methyl benzoate, methyl butyrate, methyl ethyl ketone, methyl formate, methyl isoamyl ketone, methyl isobutyl ketone, methyl propionate, 2-methylpyridine, N-methyl-2-pyrrolidone, methyl salicylate, nitrobenzene, o-nitrotoluene, m-nitrotoluene, p-nitrotoluene, 2-pentanone, 3-pentanone, phenyl acetate, propyl formate, pyridine, tetrahydrofuran or mixtures thereof.

Claim 2: The process according to Claim 1, wherein the polymerization is carried out under a protective gas atmosphere.

Claim 3: The process according to Claim 1, wherein the at least one compound of the formula (III) is selected from the group consisting of acrylic anhydride, methacrylic anhydride and mixtures thereof.

Claim 4: The process according to Claim 1, wherein the at least one polythiol of the formula (IV) is ethanedithiol.

Claim 5: The process according to Claim 1, wherein the at least one compound of the formula (IV) is reacted in the form of an aqueous alkaline solution which contains 1.1 to 1.5 equivalents of at least one Bronsted base, based on the total amount of the at least one compound of the formula (III).

Claim 6: The process according to Claim 1, wherein the at least one compound of the formula (III) and the at least one compound of the formula (IV) are reacted by concurrent metering into a reaction vessel in at least one inert organic solvent L and in an aqueous alkaline solution, respectively.

Claim 7: The process according to Claim 1, wherein the polymerization is carried out at temperatures in the range from 20°C to 80°C.

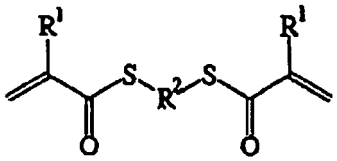
Claim 8: The process according to Claim 1, wherein an acidic ion exchanger is present during the polymerizing or during the reacting.

Claim 9: A transparent plastic prepared according to the process of Claim 1.

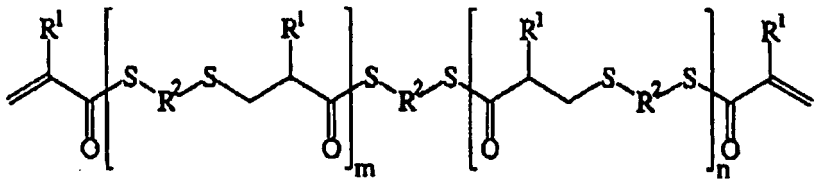
Claim 10: An optical lens comprising the transparent plastic as claimed in Claim 9.

Claim 11: The optical lens of Claim 10, wherein the lens is an ophthalmic lens.

Claim 12: A process for preparing a mixture comprising the compounds of the formula I and formula II



(I)



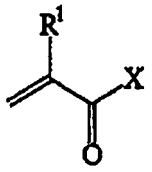
(II)

where R^1 is independently at each instance hydrogen or a methyl radical, R^2 is independently at each instance a linear or branched, aliphatic or cycloaliphatic radical or a substituted or unsubstituted aromatic or heteroaromatic radical, and m and n are each independently an integer of not less than 0, subject to the proviso that $m + n > 0$, and

wherein the mixture contains more than 10 mol%, based on the total amount of the compound as per formula (I) and (II), of compounds of the formula (II) where $m + n = 2$,

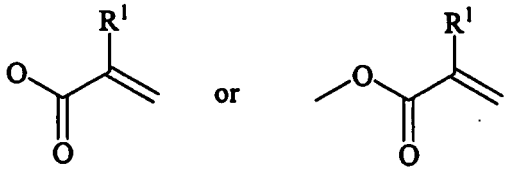
wherein said process comprises:

reacting 1.0 to less than 2.0 mol of at least one compound of the formula (III)

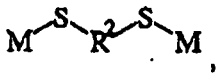


(III)

where X is chlorine or a radical of formula



with one mole of at least one polythiol of the formula (IV)



(IV)

where M is independently at each instance hydrogen or a metal cation.

Claim 13: A mixture comprising the compounds of the formula I and formula II, prepared by the process of Claim 12.

Claim 14: The process according to Claim 12, wherein the reaction is carried out under protective gas atmosphere.

Claim 15: The process according to Claim 12, wherein the at least one compound of the formula (III) is selected from the group consisting of acrylic anhydride, methacrylic anhydride and mixtures thereof.

Claim 16: The process according to Claim 12, wherein the at least one polythiol of the formula (IV) is ethanedithiol.

Claim 17: The process according to Claim 12, wherein the at least one compound of the formula (IV) is reacted in the form of an aqueous alkaline solution which contains 1.1 to 1.5 equivalents of at least one Bronsted base, based on the total amount of the at least one compound of the formula (III).

Claim 18: The process according to Claim 12, wherein during the reacting the at least one compound of the formula (III) and the at least one compound of the formula (IV) are

concurrently metered into a reaction vessel in at least one inert organic solvent L and in an aqueous alkaline solution, respectively.

Claim 19: The process according to Claim 12, wherein the reacting is carried out at temperatures in the range from 20°C to 80°C.

Claim 20: The process according to Claim 12, wherein an acidic ion exchanger is present during the reacting.

Claim 21: The process according to Claim 1, wherein from 1.1 to 1.8 mol of the compound of formula (III) is reacted with 1 mol of the polythiol of formula (IV).

Claim 22: The process of Claim 1, wherein 1.2 to 1.6 mol of the compound of formula (III) is reacted with 1 mol of the compound of formula (IV).

Claim 23: The process of Claim 1, wherein from 1.2 to 1.5 mol of at least one compound of formula (III) is reacted with 1 mol of at least one polythiol of formula (IV).

Claim 24: The process according to Claim 12, wherein from 1.1 to 1.8 mol of the compound of formula (III) is reacted with 1 mol of the polythiol of formula (IV).

Claim 25: The process of Claim 12, wherein 1.2 to 1.6 mol of the compound of formula (III) is reacted with 1 mol of the compound of formula (IV).

Claim 26: The process of Claim 12, wherein from 1.2 to 1.5 mol of at least one compound of formula (III) is reacted with 1 mol of at least one polythiol of formula (IV).

Claim 27: The process according to Claim 1, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of formula (IV) to form the transparent plastic having a refractive index of greater than 1.608.

Claim 28: The process according to Claim 1, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of formula (IV) to form the transparent plastic having an Abbe number above 36.

Claim 29: The process according to Claim 1, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of formula (IV) to form the transparent plastic having a refractive index of greater than 1.608 and an Abbe number above 36.

Claim 30: The process according to Claim 12, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of formula (IV) to form the transparent plastic having a refractive index of greater than 1.608.

Claim 31: The process according to Claim 12, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of

formula (III) and the compound of formula (IV) to form the transparent plastic having an Abbe number above 36.

Claim 32: The process according to Claim 12, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of formula (IV) to form the transparent plastic having a refractive index of greater than 1.608 and an Abbe number above 36.

Claim 33: The process according to Claim 1, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of the formula (IV) to form the transparent plastic having a refractive index of greater than 1.61 and an Abbe number of greater than 39.

Claim 34: The process according to Claim 12, wherein the transparent plastic is formed by polymerizing a mixture comprising the product of the reaction of the compound of formula (III) and the compound of the formula (IV) to form the transparent plastic having a refractive index of greater than 1.61 and an Abbe number of greater than 39.

Claim 35: The process according to Claim 1, wherein the solvent L is ethylacetate.

Claim 36: The process according to Claim 12, wherein the reacting is carried out in ethylacetate.

Claim 37: The process according to Claim 1, wherein the compounds of formula (I) and (II) are the only polymerizable compounds in the mixture.

Claim 38: The process according to Claim 12, wherein the compounds of formula (I) and (II) are the only polymerizable compounds in the mixture.

IX. EVIDENCE APPENDIX

Evidence in support of patentability was presented in the original specification. Three Comparative Examples, taken from DE 4234251, corresponding to Bader, are described on page 27, line 20 through page 28, line 2. Inventive Examples B1-B4 are described on page 28, line 4 through page 29, line 37. The properties of the compound of formula (II) are provided in Table 3 on page 30 of the specification. The properties of a transparent plastic obtained by polymerizing the compound of formula (II) with the compound of formula (I) are described on page 31, lines 9-37.

The respective tables are reproduced below for convenience.

Table 1: substances used

	1, 2-Ethane-dithiol [mol]	MAA [mol]	NaOH [mol]	Solvent
VB1	1	2.100	2.300	Methyl tert-butyl ether
VB2	1	1.520	1.500	Methyl tert-butyl ether
VB3	1	2.100	2.300	Ethyl acetate
B1	1	1.520	1.760	Ethyl acetate
B2	1	1.520	1.760	Ethyl acetate
B3	1	1.450	1.692	Ethyl acetate
B4	1	1.450	1.692	Ethyl acetate

Table 3: characterization of product mixtures

	n_D^{20}	Colour	MAA [mol%]	EDTDMA [mol%]	Mono-adducts [mol%]	Diadducts [mol%]	Tri-adducts [mol%]
VB1	1.5645	colourless		52.3	27.4	6.6	5.8
VB2	1.5600	colourless	4.5	58.5	23.3	6.3	2.4
VB3	1.5571	yellow	< 1	71.4	18.9	2.6	< 1
B1	1.5700	yellow	< 1	37.9	37.5	13.2	5.9
B2	1.5704	colourless		39.2	36.3	14.4	6.3
B3	1.5733	colourless	< 1	29.6	38.8	13.9	8.0
B4	1.5729	colourless	< 1	24.0	44.1	16.3	8.0

X. RELATED PROCEEDINGS APPENDIX

None.